

13 MAY 2005

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



534817

(43) International Publication Date
10 June 2004 (10.06.2004)

PCT

(10) International Publication Number
WO 2004/048110 A1

(51) International Patent Classification⁷: B41J 2/135

(21) International Application Number:
PCT/AU2003/001500

(22) International Filing Date:
17 November 2003 (17.11.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/302,577 23 November 2002 (23.11.2002) US

(71) Applicant (for all designated States except US): SILVERBROOK RESEARCH PTY LTD [AU/AU]; 393 Darling Street, Balmain, New South Wales 2041 (AU).

(72) Inventor; and

(75) Inventor/Applicant (for US only): SILVERBROOK, Kia [AU/AU]; Silverbrook Research Pty Ltd, 393 Darling Street, Balmain, New South Wales 2041 (AU).

(74) Agent: SILVERBROOK, Kia; Silverbrook Research Pty Ltd, 393 Darling Street, Balmain, New South Wales 2041 (AU).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

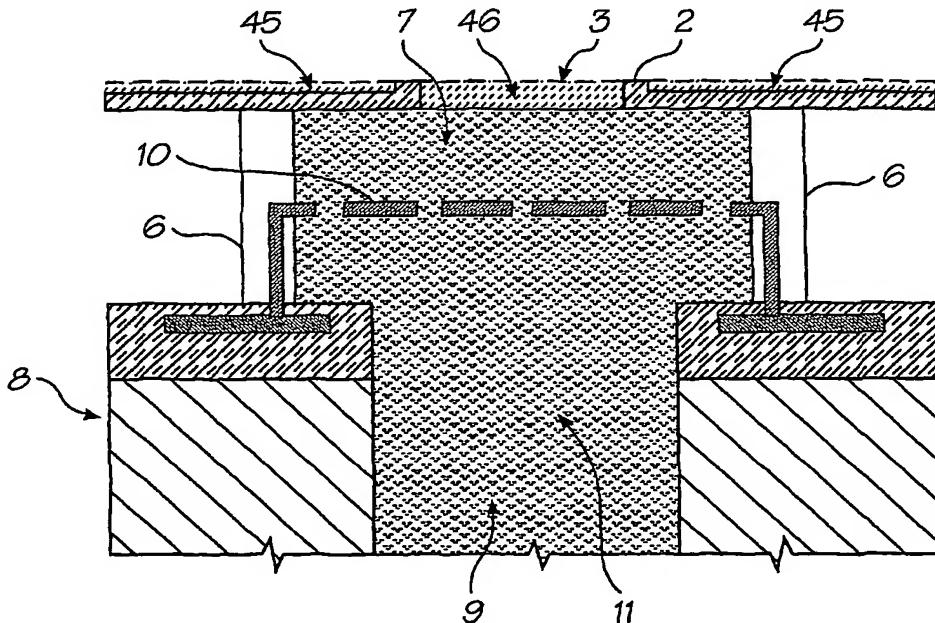
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

[Continued on next page]

(54) Title: THERMAL INK JET WITH THIN NOZZLE PLATE



WO 2004/048110 A1

(57) Abstract: An ink jet printhead which comprises a plurality of nozzles (46) and one or more heater elements (10) corresponding to each nozzle. Each heater element is configured to heat a bubble forming liquid (11) in the printhead to a temperature above its boiling point to form a gas bubble therein. The generation of the bubble causes the ejection of a drop of an ejectable liquid (such as ink) through the respective corresponding nozzle, to effect printing. The printhead includes a structure (2) which is less than 10 microns thick, on which the nozzles are incorporated.

WO 2004/048110 A1



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.